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AUTHOR Hildenbrand, Suzanne
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ABSTRACT

The author traces the gifted education movement in the United States from the beginnings in the early 1900s of the intelligence testing movement. Societal conceptions about the ignorance of the masses fed the movement. The emergence of gifted child theory is traced to Lewis Terman and Leta Hollingworth. Terman's association of mental ability with national issues such as selective immigration is noted, as is the conception that the new elite of gifted individuals was compatible with a modern industrial democracy. Trends in grouping gifted children and in identifying them are reviewed. The Major Works Program in Cleveland, Ohio, is considered, as are programs designed in opposition to grouping. Effects of the Second World War and the Depression denegated the role of IQ in human affairs and minimized the hereditary origins of intelligence. The Cold War's effect on science instruction for gifted students is detailed, illustrated by establishment of the Bronx High School of Science. The manpower model, which linked the development of a gifted aristocracy with national goals, was seen by many as undemocratic. (CL)

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Democracy's Aristocrat:
The Gifted Child in America, 1910-1960

Suzanne Hildenbrand, PhD.
School of Library and Information Science
State University of New York
Geneseo, New York

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The Context, 1910-1929

The gifted child movement in North America is a product of the intelligence testing movement of the early 1900s. Both had their origins in a period of great concern about the perceived deficiency in mental ability. On the one hand, feeblemindedness seemed to be increasing (Goddard, 1912). Feeblemindedness, according to the "myth of the menace of the feebleminded" (Haller, 1963, p. 95), was the source of many social ills such as crime and prostitution. On the other hand, "genius," which was vital to social progress, was thought to be dying out (Grant, 1916). Since mental ability was believed to be biological in origin, the situation could not be soon corrected. Eugenics, however, flourished.

This cynicism about the mental capacity of the general public flourished during one of the most expansive periods of American capitalism. It placed a curb on reforms aimed at controlling the trusts or robber barons. In addition, any suggestion of sharing power or wealth with the masses or their representatives appeared ridiculous. This viewpoint held that the masses were not merely ignorant, a correctable condition, but they were biologically unfit.

With the advent of mental testing, psychology emerged with a potentially powerful role in American society. It offered a model of mental ability as follows:

> the chief determiner of human conduct is a unitary mental process which we call intelligence and . . . this process is conditioned by a nervous mechanism that is inborn . . . that it is but little

a Thousand Gifted Children, appeared in 1925, quickly sold out, and a new edition appeared in 1926. The study included approximately 1500 children and presented results on about 640. On many items comparisons with an unselected group of about 600 were offered. All the children in the study were well within the top 1 percent on the Stanford Binet test. They came primarily from California urban areas, and included slightly more boys than girls, especially in the upper age brackets. The study was conducted on children in grades 3 - 8, with an average age of 11 years. Teachers were asked to list the three pupils, "whom you regard as most intelligent" in their class. If the youngest in the class was not listed, they were asked to add that pupil's name. Only these pupils were tested. Home visits, questionnaires, physical examinations and psychological scales were the methods used to gather information.

Although it was difficult to estimate the study group's ethnic makeup as a representation of the general population, it was clear to Terman that there was "100 percent excess of Jewish blood" (Genetic, 1925, p. 82) and an underrepresentation of blacks and Latins. Terman ruled out language as a factor for the latter due to the "relatively good showing made by certain other immigrant groups similarly handicapped." The causes, he concluded, "lie deeper than environment" (Genetic, 1925, p. 57).

More than one fourth of the group had at least one parent who had graduated from college, and Terman estimated that the average parent of a child in the gifted group had completed about twice as many years of schooling as the average adult in the population (Genetic, 1925, p. 83). About 29% of the fathers were employed in the census category of

affected by any later influence. (Goddard, 1920 p. 1)

This rare commodity could be found most readily by the psychologist's IQ test. Goddard had translated the Binet test of individual intelligence in 1910, and it had had some limited use in the schools (Adler, 1914; Whipple, 1916). However, the development of a group test, used on approximately 1.7 million men during World War I, provided the intelligence test and the testers with important publicity and credibility ("Round Pegs and Square Holes," 1919). The findings evidently confirmed a variety of popular beliefs on the scarcity and distribution of intelligence (Yerkes, 1921, p. 96; Stocking, 1968, p. 301). Those skeptical about the intelligence of the common man now had statistical evidence to support their views (Cremin, 1960, p. 90).

The testers defined their work in rather narrow, self-consciously scientific terms. They were not interested in theory or meaning, preferring to emphasize what the tests could "do" (Pressey, 1921, p. 144). Culture, and other non-quantifiable factors, tended to be ignored. Although this approach seems to be in keeping with traditional American pragmatism, the emphasis of ability over knowledge seemed to be a contradiction of it (Haggard, 1927).

Terman himself, in recruiting assistants for the gifted study, hoped to hire only those of highest IQ rank. He inquired of one applicant, "Does she belong in the gifted class?" She did not, but had done course work in tests and measurements, so Terman hired her anyway (Terman to Hagerty, 27 May 1921, Lewis Terman Papers).

Not surprisingly, many psychologists, including some who had been

prominent in the wartime program, wrote for the public on this important social issue. They described the shortage and distribution of intelligence and its meaning for American political life (McDougal, 1921; Goddard, 1920; Brigham, 1923). These works were uniformly skeptical about the abilities of the average citizen and endorsed an elite of IQ. Testing spread, and by 1923 Terman could report that 60 percent of the members of the American Psychological Association were working in mental testing (Terman, 1924).

However, opposition to the extravagant claims of the testers emerged. The often angry opponents argued on political and moral grounds. They dismissed the alleged science of the testers and relegated the tests to a diminished role. Two prominent opponents were John Dewey and William Chandler Bagley. Dewey warned that little differences existed in the capacity of children's minds and that emphasis on IQ scores would simply accentuate class lines (Dewey, 1922). He urged highly individualized programs for the maximum development of each child and deplored the idea of grouping. Bagley, a professor at Teachers College, New York, who was trained in educational testing and a founder of the Journal of Educational Psychology, stressed the cultural and regional inequalities that the Army testing data revealed. He warned that an aristocracy found by tests would be as repugnant as any other (Bagley, 1925).

Acceptance of testing by the schools would ultimately depend on how well it helped the schools and their interest groups achieve their goals. Efficiency had joined the earlier traditions of equity and fairness served by schools. Testing seemed likely to promote efficiency (Krug, 1972,

p. 111), particularly in the matter of grading pupils, which was a growing concern (Shearer, 1898). A significant part of this concern focused on the bright child, a categorization usually determined by the teacher's assessment. In fact, acceleration, enrichment, and segregation, which are the three methods of dealing with the fast-learning child today, were in evidence by the turn of the century. Grouping as a technique appears to have been growing in popularity, and although the modern idea of ability grouping is associated with testing, the ground was well prepared for it (Sattar, 1969).

The interest groups that have been most important in the history of the American public school are administrators, teachers, middle-class parents and their children, and civic organizations. Although they share many interests, they also have different concerns. Administrators are concerned about good public relations, community support, staff control, and harmony. Teachers place a high value on "psychic" rewards (Lortie, 1969) such as "knowing" their pupils, and they like good classroom discipline. Professional rewards, such as participating in important movements, if they do not require too much additional preparation, are also sought. Professors of education attempt to link educational practice to a sound scholarly or theoretical basis. Middle-class parents want a good classroom atmosphere for their children, often meaning "nice" classmates, good teachers, and a positive relationship with the school. They do not usually favor heavily academic programs. Civic organizations seek rewarding projects that bring community respect. Working with youth has long been popular among such groups. Thus it can be seen that a large and varied

audience, already interested in the bright child, awaited gifted child theory.

The Emergence of Gifted Child Theory, 1910-1929

The idea of giftedness that emerged, however, was less a theory than a model, with both descriptive and prescriptive features. It reflects the biographical background and research of its major architects, Lewis Madison Terman (1887-1956) and Leta Stetter Hollingworth (1886-1939). Those features of the model which reflected the experiences of the numerous other upwardly mobile, farm-born Anglo-Saxon Protestants of the day, facilitated its acceptance. On the other hand, those features which reflected more narrowly the experiences of Terman and Hollingworth, such as reliance on tests, delayed the model's acceptance. Both Terman and Hollingworth were born in rural poverty. Each was the only family member to achieve prominence and did so by building impressive school records. It was probably easy, therefore, for both to accept the view that the source of their scholastic and adult achievement was distant ancestry rather than early environment. Both had experienced a sense of differentness and isolation in childhood. Not surprisingly, both saw achievement as a highly individual accomplishment and played down the role of context. The model of giftedness, reflecting this highly individualized view and a lonely childhood, presents a kind of updated or scientized Great Man Theory of history (Hollingowrth, 1926, p. 339) and stresses mental health concerns (Terman to King, 3 March 1929, p. 262).

Terman's major work, Genetic Studies of Genius, was begun in 1921 and is still widely quoted today. Volume one, Mental and Physical Traits of

"professional work," and Terman calculated that professional classes were 1003 overrepresented. Still, Terman insisted that although financially the group was "fairly comfortable," it was not much wealthier than average. Unfortunately, however, he obtained income figures for only 170 families, whereas education and occupation information was obtained from all families. Other information suggests that the group was of somewhat better income level (Genetic, 1925, pp. 73, 75, 81). Certainly, however, lower income groups were vastly underrepresented, and Terman concluded that "the ten-year-old child of a California laborer competes for high IQ rank no more successfully than the laborer's son competed for genius rank in Europe a hundred years ago" (Genetic, 1925, p. 635).

Turning to the data on the study children, Terman found them to be vastly superior in health, both mental and physical, to the comparison group. They were also believed by Terman to be of superior character or morality, surpassing the comparison group on tests of "honesty, trustworthiness and similar traits" (Genetic, 1925, p. 638). The superiority of the gifted in scholastic achievement was found to be only two thirds to three fourths their superiority in IQ. This formed the basis for the claim that most of the gifted are "retarded" and therefore need special help.

Terman clearly related his work to the social importance of intelligence and psychology's role in finding and fostering it. He tied mental ability to "national issues," such as "selective immigration" and the "economic rewards of creative talent" (Genetic, 1925, p. v). He anticipated that "when our cases are read backwards, so to speak, it will be

easier to read other cases forward; to predict and to prescribe in the light of long range knowledge" (Genetic, 1925, p. 16). He also stressed the superiority of the IQ test over the teacher's judgment in finding the gifted child. Indeed, birth records seemed more likely to produce gifted children for his study than a teacher's recommendations. This was also evidence, Terman believed, of how neglected the gifted were, since they could not even be recognized! Terman, stressing the need for recognition and attention to the needs of the gifted, never specified much beyond moderate acceleration. Hollingworth described methods she used in working with the gifted (Hollingworth, 1926).

Despite the use of the term "genius" in his title and volume two, which contained estimates of childhood IQs of historic "geniuses" such as Milton and Goethe, Terman claimed that his group would be more likely to achieve at a level equivalent to the most distinguished 25 - 50 adult men in a typical city of 25,000.

Thus, to summarize, the model of giftedness that evolved in the period from 1910 to 1929, included the following important elements:

1. There was a shortage of mental ability, and this was an important social issue. Since the source of mental ability was biological, it cannot be developed.

2. Mental ability is accurately measured by IQ tests, which predict both adult and scholastic attainment.

3. Although high IQ is randomly distributed, some groups demonstrate low IQ, including the poor, blacks and Latins.

4. High IQ is related to other desirable qualities such as honesty.

5. Children with high IQs need special treatment for various reasons: to safeguard their mental health, to prepare them for leadership roles, or to overcome their low level of achievement relative to their intelligence. This special, or better, treatment is justified by their anticipated contributions to the social good as adults.

6. This new elite is compatible with a modern industrial democracy.

The reception of Terman's first volume, which embodied the essential features of this model, has varied in a way that follows a pattern. Other psychologists writing at the time of publication were most enthusiastic. Educators of the day refrained from commenting on certain aspects of the model but agreed enthusiastically that his work showed that there was a gifted group in need of special attention in school. Over the years, reaction has been considerably more critical, reflecting different contexts, different disciplines, and different psychological perspectives.

In 1946, which was just about the nadir of faith in IQ testing, Nicholas Pastore prepared a thesis at Teachers College, New York, on political opinions which were on opposite sides of the nature-nurture controversy. He consulted the published works of each author to determine their views on "the potentialities of the common man . . . the origin of social evil, attitudes toward democracy" (Pastore, 1949, p. 15). Terman, of course, was established as a conservative. Pastore submitted his essay to each of the subjects of his study, and Terman was outraged. His reply to Pastore caused Pastore to revise his work, and Terman became

the only liberal in the hereditarian camp. In 1930, Terman was still so angry about the work that he wrote congratulating the psychologist who gave it a critical review after it was published (Terman to Dr. George Morland, 24 October 1950, Terman papers). Terman still believed that his science would transform politics, but Pastore and many others had come to believe that his science was a product of politics. His indignation is understandable as a response to an assault on his life work and on the personal identity forged so laboriously on the way up from the farm. Yet those who would actually design and run programs for the gifted had other identities and other interests.

Grouping for Giftedness, 1910-1929

The American public school serves primarily as an opportunity broker, and while other roles--transmitter of a great cultural heritage, for example--may be occasionally advanced, opportunity brokering endures. The ready availability of educational opportunity for individual advance helps to deflect demands for collective or class-based welfare. This role provides the school with its greatest community support and provides the interest groups attached to the schools with their major satisfactions. For the school staff these satisfactions are both psychic and professional. Helping children make the most of their opportunities assists teachers in classroom management and adds long-term satisfaction, since the teachers can identify with the later success of their pupils. Schools in which it is clear to all that the pupils have very limited opportunities, for example, ghetto schools, have child discipline problems and staff morale problems. Schools with many children whose opportunities appear unlimited

and who are encouraged by their parents to make the most of them and guided by teachers to appropriate opportunities, are much happier places for all. Clearly, gifted child theory emphasized how limited were the opportunities of most children. Indeed, most should be trained so that they would not become social charges. This theory also, by emphasizing the test, separated the teacher from a role in matching the child to the opportunity. By striking at the value of opportunity for most and the role of the teacher in fostering it, gifted child theory threatened both the major role of the school in American society and the major satisfactions of teachers and administrators.

The model of giftedness proposed by Terman and Hollingworth also defied the economic realities of the times: The expanding capitalism of the period was producing many new middle class slots. Many of the children of the urban working class, especially, would move upward into white collar work. The census shows a fivefold increase in the number of people employed as accountants between the 1910 and 1930 census surveys (U.S. Bureau of the Census, 1975, v. 1, p. 140), yet the gifted child model, supported by testing theory, seemed to indicate that few were able to learn accounting. Businesses, however, would not operate without accountants, and schools would not relinquish this chance to link themselves to a surge of upward mobility.

What emerged from this apparently contradictory situation was a modification of the theory that, in fact, augmented the opportunity broker role of educators, strengthening their ties to the upwardly mobile. The model was used to justify special programs for some children. Yet, the

number of children benefitting from these programs was far larger than that suggested by the Terman-Hollingworth model. The method of selection reduced in importance the IQ test and elevated the teacher's judgement, of which Terman had been so skeptical. Programs offered the children were not designed to overcome "retardation," but resembled the progressive programs in vogue in many private and good suburban schools. A sample of opportunity-minded educators, writing in the National Society for the Study of Education's Yearbook on The Education of Gifted Children, illustrates the characteristic adaptation of the IQ selection standard. Without an outright attack on the IQ test, its unique power to find those capable of doing well in school and life is denied. Bird Baldwin wrote, for example, that the tests are "but single shafts sunk into the very complex nature of a developing child, and that these devices . . . may be very misleading" (Baldwin, 1924, p. 25). Harold Rugg stressed that in addition to the high IQ children, "there were the socially intelligent, the mechanically intelligent (and) the esthetically intelligent" (Rugg, 1924, p. 93). Harvey Townsend, while denying that the tests were undemocratic, wrote that experienced teachers knew that "difference in family tradition, is pedagogically more important than a difference in mental age" (Townsend, 1924, p. 150). Editor Guy Whipple wrote that the contributors all agreed to a need for "better provision for gifted pupils in public schools" (Whipple, 1924, p. 24).

Turning from rhetoric to practice, grouping for giftedness appears to have flourished during this period. It allowed school districts to target their resources to children headed for middle class status. The

economic structure emerging in the 1920s meant that many working-class children, as well as middle-class children, would enter white-collar jobs. Grouping for giftedness was characteristically practiced in the large, urban districts with many of these children. The classrooms for the gifted featured a nurturing, homelike atmosphere that was recommended by progressive educators. Indeed, grouping for giftedness often flourished in large, urban districts with outstanding progressive programs in nearby suburban districts. Thus, in this period New York City, Los Angeles, and Cleveland were leaders in grouping for giftedness, whereas Bronxville, Pasadena, and Shaker Heights were leaders in progressive education.

Rugg found, in a survey of programs for the gifted, that there were "very few separate classes for children of say IQ 135 and above." Special classes usually had "only the relatively superior--not the exceptionally rare or gifted" (Rugg, 1924, pp. 93-94). A frequent arrangement was the so-called X-Y-Z plan, which divided grades into sections of approximately one third each. This was sometimes called "homogeneous grouping"--an unfortunate term that was to prove vulnerable. In New York City the brightest group, "relative to the school or neighborhood and not absolutely according to city-wide standards" (Harthill, 1936, p. 1), was numbered one and was the largest. The slowest class, regardless of how many classes or sections there were to be was labelled two and was the smallest (Harthill, 1936, p. 1, p. 11). Roy Billett found this to be the common pattern in his survey: The top class was the largest. (So much for educators and the shortage of mental ability!) Billett also surveyed the methods of selection and found sixteen different bases for assignment to the top

section, including mental tests, average marks, industry, application, and effort. Most districts used a combination of these, and pupil transfers were more frequently on the basis of teacher's judgement than retest. Although Jensen concluded that "intelligence tests are the most generally used method of selecting gifted children for special classes," she found only one district (Cleveland) that claimed to use IQ as the sole criterion (Jensen, 1927, p. 2[illegible]). She confirmed that "the movement toward ability grouping may be said to have reached its highest point in the so-called X-Y-Z classes" (Jensen, 1927, p. 37).

The program offered to the children in the top section did not suggest an effort to overcome retardation. Billett found that the major differences between the top and average and slow sections was methodology (Billett, 1932, p. 147). Attitudes development was also important in the program of the gifted (Davis, 1924, pp. 138-139). In places where additional courses were offered, they were not clearly related to training an aristocracy. They included typing, hygiene, library instruction, tennis, art, music, and foreign language. These subjects may have been offered, of course, because there were teachers available with these skills. The problem of what to teach the gifted persisted over the decades. In 1947, Robert Thorndike wrote to Terman that Hunter College Elementary School for gifted children offered art, music, and other nonacademic activities. "The staff and the advisors seem a good concerned about making the course over-intellectual" (Thorndike to Terman, 2 September 1947, Terman papers).

Probably the best known of the early programs for the gifted was the Cleveland Major Works Program. It is the subject of a large literature

and is frequently cited as a model program. It can serve to illustrate the kind of adaptations made by a large urban district to the gifted child model of Terman and Hollingworth. Goddard served as advisor to the program in its early years, and he described the administrative problems encountered in attempting to set up a program for children with IQs of 140 or more. Adherence to such a standard in a typical Cleveland elementary school with an enrollment of about 1500 would identify only 8 children. (Goddard assumed that the school population would match the population on which the test had been standardized.) The problem was dealt with in three different ways: by inclusion of children with IQs in the 110 to 119 range to form one class for the gifted on the grade, by consolidating children of three different grades with IQs of 120 or more into one class, and by selecting one school in a region to be a Major Works Center. In the latter solution, numerous children would bypass their neighborhood school to participate in classes for the gifted consisting of children with 120+ IQs on each grade. Goddard wrote that the plans were equally successful, even though "the desirability of placing in these classes children having IQs as low as 110 may be seriously questioned" (Goddard, 1928, p. 70). Still, he conceded that some of these children would profit from the program. Later authors who studied the program have indicated that children with an IQ of 120 or 125 were considered for the program (Sumption, 1941; Norris, 1958). Despite the report to Jensen to the contrary, factors in addition to IQ appear to have been important in selecting children for the program. Goddard, who had stressed the importance of finding the few capable of leadership, now wrote that "IQ is

not or should not be the sole determiner of membership in the class, even though it is the most important" (Goddard, 1928, p. 72). He indicated that this would make it hard for the school authorities, but it actually gave them more power than was allowed under the Terman model of giftedness and permitted them to continue with their traditional roles. Goddard even conceded that "if the teacher is of broad experience and high culture, her opinion should be given weight" (p. 73).

The Major Works Program featured progressive activities that helped to socialize the children into adult middle class roles. Overcoming retardation was never really considered and was even eventually repudiated (Hall, 1956, p. 40). (Goddard urged that the "emotionally unstable" be considered for inclusion, evidently believing that the program would be therapeutic for them.) Two activities widely described were the oral report and the field trip. Both fostered many skills important in a range of white-collar work, including communication, cooperation, ability to accept criticism, and others. The classrooms were homelike and cheerful, and each room had a musical instrument, often a piano. Tables and chairs, aquaria, bookshelves, and workbenches--novelties in the public school classrooms of the 1920s--were all standard equipment. Essentially, the Major Works Program established a standard progressive program for children in a large urban district who were selected to preclude failure.

Participation in the Major Works Program clearly brought heightened satisfactions to many groups associated with the Cleveland schools. Teachers enjoyed greatly enhanced psychic rewards. It was almost unanimously reported that classes for the gifted presented fewer discipline

problems: "Our children want to do the right thing" (Hall, 1956, p. 19), one Major Works teacher reported. Another teacher of the gifted observed "that the particular delight of a gifted child is to surprise the teacher with an unexpected skill" (Davis, p. 134). The teacher of these classes enjoyed considerably more freedom: "She can teach what she wishes, when she wishes. She does not even have a daily time schedule" (Goddard, p. 86). Teaching such classes gave the teacher wider recognition in the community and increased contact with middle-class parents. Professional satisfactions were increased, too, since teachers could feel that even though they were not teaching in a wealthy suburb, they were taking part in the newest trends in education. Those teachers who did not have a gifted class could look forward to this experience one day. They might prepare themselves with additional course work for what was clearly seen as a kind of promotion.

Pupils readily understood that they were in better classes, and most found the "socialized" nature of the program its best feature. One survey of those who had passed through the program elicited comments such as, "After having visited other classes which through necessity are more or less regimented, I certainly realized the advantage of being in a Major Works class." Another reported that, "in our class, the pupils had a chance for a more intimate acquaintance in a more friendly atmosphere" (Sumption, p. 157). Specific progressive activities such as the use of the workbench and the free-wheeling discussions were singled out by some. A few comments suggest gratitude for the chance to acquire attitudes and social skills they would not learn at home, appreciation of "the finest

things in life," and acquisition of self-confidence (Sumption, p. 157). Goddard indicated that a majority of Major Works pupils had at least one foreign-born parent.

Administrators enjoyed advantages from the Major Works Program, too. Such grouping permitted the school district to direct better and more costly services (Sumption, p. 36) to an influential segment of the community and thus enlist their support. The close relationship with the Cleveland City Women's Club may have been very helpful to the school administration, particularly as Mrs. Benjamin Boles, the wife of the publisher of the Plain Dealer was especially interested in the Major Works Program. Cleveland school administrators who were associated with the program earned reputations for innovation and expertise. Grouping of pupils offered better staff control, with the possibility of teachers having a kind of reward for good service in assignment to a Major Works class.

Obviously, parents of children in gifted child programs such as the Cleveland one, had reason to be pleased. Their children were in class with "nice" children and had the better teachers. Middle-class parents could feel confident that their children were treated in much the way that their parents would treat them at home. Although their children were clearly recognized as superior, they were not saddled with a lot of useless abstractions. There were even opportunities for parental participation in school activities (field trips, for example) for those wishing it. Parents of children not selected were not likely to realize that other children were enjoying a clearly better program.

A last group which profitted from this was the civic organization.

The Cleveland City Women's Club helped to finance the program. They provided many of the little homey extras, such as the rugs and musical instruments, and they even paid Goddard's fee. Gifted children became an uplifting activity which enhanced the club's reputation. Three books on the Major Works Program are dedicated to Mrs. Boles or to her memory.

Opposition to grouping for giftedness came from within professional ranks. More progressive educators in universities and in good suburban school districts attacked grouping and favored greater individualization of programs for all. The terminology of the groupers left them vulnerable: It was easy to show that there was no such thing as a "homogeneous group" (Brown, 1926; Hollingshead, 1928). Educators from good suburban schools probably could not group on any basis except student choice. Parents were already paying high school taxes and would not tolerate some getting better education than others. Sharp inequalities in funding and status would be quickly recognized by the better-educated parents in these smaller communities. The absence of a large group of lower-class children also made grouping seem less necessary. (Opportunity brokering may take other forms in such settings.)

Carlton Washburne, superintendent of the Winnetka, Illinois, schools, was the chief architect of the "Winnetka Plan," under which the same methods and curriculum were provided to all children. Pupils moved through the "common essentials" of arithmetic and reading at individual rates. Those moving more rapidly, and proving their progress by test, had time to spend in one of many "self-expressive" activities. The Commonwealth Fund of New York, which had also helped fund Terman's study,

sponsored a study of the children of high IQ participating in the Winnetka plan. The records of high-scoring, average, and low-scoring children were compared. Whereas the highest IQ group made the best progress generally, a study of individual records showed a lack of correlation between IQ and achievement in all groups. Washburne concluded, "The error comes in when one tries to apply what is true of central tendencies of groups to all various individuals who make up these groups." Naturally, he believed that research and the Winnetka experience showed "the futility ofattem pting to group children by intelligence quotients and then treating each group as if it were homogeneous" (Washburne, 1924, p. 255). Ironically, grouping was attacked for a practice it was not clearly guilty of--reliance on the IQ test (Wyndham, 1934, p. 214). The Winnetka Plan was a serious challenge to grouping for giftedness because it featured progressivism for all, was developed in a professional context and therefore avoided the moral and political judgements of Dewey and Bagley.

The Gifted Child in Depression and War, 1930-1949

The Great Depression and World War II placed enormous strains on American society, making unity a top goal. Policies that accentuated social division would not be tolerated. A reform-minded national administration in power during most of this period emphasized that the United States was still the "land of opportunity." Relief measures combined concern for the unemployed with programs that would bolster individual initiative. During the war the need for the service of all--in the military or in industry--was emphasized. A campaign, largely rhetorical, against racial discrimination was launched. In order for opportunity to

be credible as a unifying force, every individual had to be seen as capable of profiting from opportunity.

This new sociopolitical context, together with the specter of the Nazi state in Germany espousing eugenics measures, fostered the rise of an interactionism favoring environmentalism in American social science. A new mainstream emerged in psychology that placed much less emphasis on the role of the IQ in human affairs and denied or minimized the hereditary origins of intelligence. Psychologists who had not participated in the Army testing program, some of European origins, offered different explanations of achievement. Particularly pronounced was the movement away from the old unitary idea of intelligence and the new emphasis on various factors. (For the implications of this shift, see Tuddenham, 1962, p. 515.)

Otto Klineberg denied that tests proved that racial differences in intelligence existed. He also wrote that, "to identify genius with high IQ is a most misleading simplification" (Klineberg, 1930-35).

David Wechsler also denied that IQ or "divine spark" distinguished the historical great achievers from their fellow men and women (Wechsler, 1935, pp. 104-107). Psychologists participating in the World War II Office of Strategic Services selection program were considerably less confident about the predictiveness of their tests than the psychologists participating in the World War I testing program had been (U.S. O.S.S., 1948, p. 392). Psychologist Carl Brigham, who had made extreme statements the earlier period, felt moved to publish a retraction (Brigham, 1930).

Gifted child theoreticians had to adapt their ideas to fit the new context and the new demand for unity. Yet they had to avoid the progressive position which denied that there was a category of gifted children. They accomplished this difficult task by proposing a model of giftedness that resembled the practices of the schools of the earlier decade. For example, they played down the importance of IQ. Paul Witty, of Northwestern University, emerged as a leading spokesman for the gifted child movement. He provided a new definition of the gifted child, free from IQ and heredity. The gifted child was now, "the child whose performance is consistently remarkable in any potentially valuable area" (Witty, 1940, p. 512-513).

Terman's work, during this period, shows something of a shift in emphasis, or even a retreat from earlier, more extreme positions. This may have been partly a response to the new context, but it was also at least partly due to the results of his study. He never, however, reappraised his earlier work in the light of the new context or his findings. Terman may have been too personally involved to face a major reappraisal of his work. The result is, however, a certain inconsistency in his volumes on the gifted. (Other work by Terman in this period is more consistent with his earlier views, Terman, 1940, p. 467). Volume three, The Promise of Youth, and volume four, The Gifted Child Grows Up, appeared in 1930 and 1947. Clearly in keeping with the spirit of the times was Terman's repudiation of racial discrimination (Genetic, 1930, pp. 287-297). He now found that the deficiency of Italian, Portuguese, Mexican, and black children among the gifted could be attributed to

"handicaps of language, environment, and educational opportunities" (Genetic, 1947, pp. 14-15).

Witty clearly did not think much of intelligence tests as a tool for finding the gifted and by 1941 he was recommending that they be dropped as a standard procedure in the schools (Witty, 1941, p. 156). However, he did agree with Terman that there was a minority of children who were gifted and that it was from their ranks that leaders would come. Indeed, he insisted that "present social order is neglecting its richest asset" (Witty, 1936, p. 304). Terman wrote of his Concept Mastery Test, which was designed especially for the gifted group, that "neither this nor any other test of intelligence measures native ability uninfluenced by schooling and other environmental factors" (Genetic, 1947, p. 129). Yet in the same volume he wrote of IQ scores as if they were true measures of "intellect" or capable of revealing "potential genius" (Genetic, 1947, p. 352).

There were few geniuses in Terman's group. As a whole their achievement was not impressive: college graduates, employed at good salaries, happily married, active in service organizations or with hobbies, readers of Time, and politically conservative. They did not seem especially likely to solve society's major problems. Moreover, the IQs of the failures and those of the most successful did not vary much. Terman divided the male members of the group into three categories in terms of traditional achievement and compared the top 20 percent--the A men--with the bottom 20 percent--the C men. He concluded that the difference in their performance was due mainly to personality characteristics evident in

childhood. Unfortunately, he did not consider the relative family wealth of the two groups. He did note that the "family backgrounds of the two groups differed markedly." Since more than three times as many A fathers as C fathers had graduated from college and more than twice as man As as Cs were in the professional class, and more of the Cs had had to earn their expenses while at college, it might appear that there were major income differences favoring the As from the outset (Genetic, 1947, p. 350).

Faced with the rather luckluster overall performance of the group, Terman observed that "many ask nothing more of life than happiness and contentment in comparative obscurity" (Genetic, 1947, p. 371). It appears that there has been a kind of devolution from "genius," to "success," or the level of attainment of the leading 25 - 50 men in a city of 25,000 to "contentment." However, Terman made no attempt to link this to the shortage of mental ability doctrine he had so vigorously espoused, or to the predictive power of the IQ, or, most significant of all, to the importance of the gifted child to society.

Although Witty began the period as an advocate of special education for the gifted, he eventually migrated to the progressive position that urged a highly individualized program. Terman seemed to be resigned to the fact that the schools would do little for the gifted children as he defined them, and so he emphasized the need for modest amounts of acceleration. Most of the group could have started college at 16 years of age, he believed. It should be noted that among the members of his

group the nonaccelerates had poorer mental health than those who had been accelerated.

Although the context had changed and gifted child theory had been suitably modified, the longstanding interests of the educators remained substantially the same. They did not drop the opportunity broker role, even though there were now fewer opportunities in the world of work. Progressivism, although a conservative progressivism as Lawrence Cremin has observed, became the new pedagogical mainstream. It fostered a variety of activities, many of which were new to the large urban schools: art, music, dance, personal and esthetic development. The schools now offered each child an opportunity to be successful at something. Vocational guidance, another progressive favorite, also helped to align the schools with the national concern for the poor, whose children were now staying in school longer.

The emergence of a progressive mainstream did not diminish the educators' enthusiasm for grouping (Sauvain, 1934, p. 76). Although most commentators report that grouping declined during this period, curriculum differentiation, emphasizing progessive features such as student choice and vocational guidance, flourished and produced similar results. Curriculum differentiation was often linked to the need to find a suitable course of study for the nonacademic youth now staying in school until graduation because of the shortage of jobs for dropouts. (High school enrollment climbed from 4.4 million in 1930 to 6.6 million in 1940.) Probably most educators understood that curriculum differentiation could indeed serve the same purpose as the old style grouping.

Warren Coxe wrote that "in the secondary schools certain subjects and curricula tend to attract certain ability levels (Coxe, 1936, p. 313). Glenn Blair, doing a dissertation at Teachers College, under Leta Hollingworth, found that children differed significantly by IQ in subject preferences. (A unique and extreme example of curriculum differentiation of direct benefit to the gifted child was the founding in 1938 of the Bronx High School of Science. It could probably only have been established in the nation's largest district that already had many specialized high schools.)

Guidance programs flourished along with curriculum differentiation. Full-time guidance counsellors increased from 2,286 in 1938 to 4,000 in 1945 (Armor, 1969, p. 227). Furthermore, guidance became a function of the whole staff. One major purpose was to help each child choose wisely from among the many opportunities now available.

> The tendency in the subject curriculum is to guide pupils into those elective subjects in which they have an interest or a purpose that holds out the reasonable degree of success. . . . This tends to make homogeneous grouping in all elective areas, since this is the end of the guidance program (Hopkins, 1936, p. 183).

These new guidance services, reflecting the progressive concern with the whole child, went far beyond curricular advice. In addition, they intended to deal with problems of personality adjustment. Goodwin Watson, founder of a program to train counsellors at Teachers College, wrote, "It is with those pupils gifted in high degree, but limited by a

few unfortunate adjustments, that the psychological counselor can make his most gratifying contribution" (Watson, 1931, p. 872). A new building was opened for the School of Education at New York University in 1930. It contained a clinic for the Social Adjustment of the Mentally Gifted ("Intelligence...", 1930, p. 693). Thus, only a few years after Terman had found the mental health of his gifted children to be superior, here were two efforts aimed at the improvement of the mental health of gifted children. The guidance movement during this period helped to provide grouped classes for the gifted and kept alive the idea that the gifted need special help or treatment in school.

World War II brought great dislocation to the schools. Witty, writing from a perspective in 1951 considerably different from the one he had held in the 1930s, lamented that interest in the gifted lagged throughout the war (Witty, 1951, p. 65). Yet, consider Education in Wartime and After, which was a collective effort by the Stanford University faculty of education (Education..., 1943). "Gifted" did not appear in the index, and the only entry for "intelligence test" was qualified with the words, "limitations of." Despite this, it was clear that the Stanford professors still believed that special classes, at least in certain curricular areas, were needed for the talented few. The gifted child may not have been mentioned much during the decades of crisis, but he or she was not forgotten.

The Gifted Child and the Cold War, 1950-1960

Although there exists some evidence of a renewed interest in the gifted child before the Cold War, it was that phenonenon that provided

the context for a large scale upsurge of interest in the gifted. Throughout most of this period there was a conservative, business-oriented climate nationally, and major sectors of the economy were rapidly expanding. The federal government took on powers unprecedented in peacetime, linked to the struggle with the Soviet Union. This struggle had two major aspects: the need for American military and industrial superiority and the need to prove the superiority of the American system in a global propaganda struggle with the Soviets. Once again, psychological evidence was used to support the idea that there were few people capable of great achievement and that society was vitally dependent on them. The atmosphere remained, however, generally more environmentalist than reliance on these views, rooted in hereditarianism, suggests. Environmentalist views better supported important reforms, such as school desegregation. While previously the view that few were capable of learning very much was an informal ideology only, now it was a part of national policy. Indeed, it was as if the federal government had embarked upon policy to track American youth (The Selective Service System, 1969, p. 545). The schools were in the national spotlight, as never before. Yet they remained under local control and the interests of the same groups prevailed.

The manpower model emerged during this period, fostered by federal policy and social science research, to challenge the opportunity model. It assumed a logical and orderly progression from a readily assessed mental ability to appropriate subject matter in high school and college, to achievement in a career important to national defense. It suggested

a hierarchy of pupils closely resembling the pyramidal hierarchy of the world of work. A very few children defined as able on a narrow basis and showing interest in a few subjects, located primarily in wealthy districts (Bailey & Mosher, 1968, p. 20), would receive generous federal support. Larger groups, further down the pyramid received much less. Desegregation meant that many schools would receive black children who, theoretically, would fit in anywhere on the school pyramid and prepare for any slot in the workforce. Some remedial help might be needed temporarily to catch up those who had years of segregated schooling only.

This constrasted sharply to the traditional opportunity role of the schools, linked to the local interest groups. Proponents of this model, too, were able to draw on important social science research during this period to bolster their position. As seen earlier, school people generally preferred that the top group, the group seen as having virtually unlimited opportunities, be the largest. While the schools may never have completely subscribed to the testers' view of ability as more important than knowledge, they had emphasized socialization and not knowledge. Although the schools may have made distinctions between preparation for blue-collar and white-collar work, there was little effort to link the curriculum for the top group to any particular white-collar work. Few teachers--including those actually teaching them!--were adequately prepared to teach the subjects now receiving the greatest support ("Who Teaches Science?," 1962, p. 771). These subjects were unpopular among the students also. Classroom tension, anxiety and failure were likely

to increase, threatening the traditional satisfactions enjoyed by school staff and students. Further, desegregation brought to some schools many pupils who did not seem able to utilize even traditional opportunities. Certainly few would be found to be gifted either on the traditional standard of candidacy for middle-class status or on the newer, more academic one. Added to all of this was the fact that now every school in America was a potential battleground in an ideological war enacted before a global audience.

Once again a kind of theory of the gifted child emerges. It linked the short supply of mental ability, defined by IQ, to special training of the gifted for national survival. A national elite sponsored this view. Following a familiar pattern educators responded with a model that permitted greater targetting of resources on youth destined for the middle class. Without actually denying many of the features of the manpower model of giftedness they stressed standards that would select far more children and offer them a far less rigorous program.

A variety of sources stressed how few were mentally able. These included a Special Studies Project of the Rockefeller Brothers Fund, headed by Henry Kissinger, the psychologist Dale Wolfle and manpower economist Eli Ginzberg (The Pursuit..., 1958; Wolfle, 1954; Ginzberg, 1958). The Educational Policies Commission, an elite body within the National Education Association and identifying more with national trends than educators' concerns, wrote of the "small fraction" of all citizens endowed with academic talent (Education..., 1950, p. 31). The importance

of this minority was repeatedly stressed (Wolfle, 1954, p. 5; Education, p. 2). While educators generally refused to take a position on this issue they clearly joined in the spirit of the times with works such as The Selection and Guidance of the Gifted for National Survival, edited by Arthur Traxler of Teachers College.

The manpower experts insisted upon the importance of the IQ test in finding those who would achieve at high levels in school and work. Wolfle wrote that "countless studies" showed that IQ tests "are useful in predicting which applicants will do satisfactory work in school, in college or other training programs" (Wolfle, p. 16). The National Defense Education Act of 1958, passed in response to the launching of Sputnik in 1957, contained provisions designed to facilitate testing of all American high school youth. It was hoped that once identified these students would pursue appropriate studies. Health, Education and Welfare Secretary Marion Folsom referred to this as the most important provision of the act.

Educators, perhaps bolstered by some important research of the period, more openly denied the predictiveness of the IQ than before. Paul Woodring, professor of education, called for the recognition of the "upper third," without reference to IQ score as gifted. (This approximated the percentage of children going on to secondary school in Europe.) He wrote that giftedness includes not only the "rare geniuses, the potential Einsteins" but also those "distinctly above average" (Woodring, 1957, p. 131). Psychologist Anne Roe, having surveyed scientists selected by their peers for outstanding achievement, observed of IQ, "It is not then essential to have

this ability at the highest level in order to become an eminent scientist" (Roe, 1953, p. 164). The fifth volume of Terman's study entitled The Gifted Group at Midlife appeared posthumously in 1959. Even more than the earlier volumes, it showed how few of these high IQ children had assumed leadership roles or achieved eminence or advanced society significantly.

> To many, the important achievement in life is happiness, contentment, emotional maturity, integrity. Even failure to rise above the lowest rungs on the occupational ladder does not necessarily mean that success in the truest sense has been trivial. There may have bee many heroic sacrifices, uncommon judgment in handling the little things of daily life, countless acts of kindness, loyal friendships won, and conscientious discharge of social and civic responsibilities. If we sometimes get discouraged at the rate society progresses, we might take comfort in the though that some of the small jobs, as well as the larger ones, are being done by gifted people (Genetic, v. 5, p. 152).

To proponents of the manpower view those gifted in "small jobs" represented a talent loss, while to educators they represented increasingly a mental health problem (Cicourel & Kitsuse, 1963, pp. 80-83; Thorndike, 1963). In either case, IQ had not been sufficient to predict substantial achievement or success.

Not surprisingly, the old racial interpretations of the scores were not revived. Yet the implications of using an instrument to make decisions about pupils, when it was known to yield large racial differences was

seldom discussed. The fact that this instrument would find few gifted blacks was all but ignored. Most writers confined themselves generally to hailing the end of segregation--in schools and in American life--as a great victory for democracy. Ginzburg wrote on The Negro Potential (1956) and stressed the need for blacks to be prepared for newer and better jobs. Educators emphasized additional possible sources of gifted. Ruth Strang noted that race "is not an eliminating factor" in the selection of the gifted. Both Witty and Strang believed that many more gifted could be found in the homes of the "less successful," since there were so many such homes. Both urged that a more thorough search be made for the poor and minority gifted. This avoids the difficult question of race and class difference in representation. It remained for black educator Horace Mann Bond to challenge the ability of the tests to find the black gifted (Bond, 195).

Adherents of both models agreed that the school had a special responsibility toward the gifted child. They disagreed over the nature of that responsibility, most noticeably on grouping and teacher preparation. Many in both camps seemed sensitive to the charge that program-wide grouping, or tracking was undemocratic. Accordingly grouping by subject was widely recommended. (In practice the result is often the same.) Yet opportunity advocates seemed to favor grouping more. The manpower advocates naturally linked teacher preparation in math and science to student achievement in these subjects. Opportunity-minded educators tended to turn achievement in these areas, and others, into a mental health issue, and accordingly emphasize teacher preparation in mental health

techniques.

The Rockefeller Report recommended secioning of courses with large enrollments only, and insisted that this was different from old-style grouping (The Pursuit..., 1958, p. 31). In 1948 Conant warned that with tracking "the visibility of our social structure begins to increase" (Conant, 1948, p. 87) but by 1959 he recommended grouping for required subjects and popular electives.

Educator Robert Ulich suggested splitting the curriculum into "emotional" and "intellectual" segments, the latter grouped and the former not (Ulich, 1951, p. 64). (His concern was clearly with his fifth or lowest group--mainly black?--for whom he feared it would be difficult to prepare a high school program.) Vivian Thayer went further and recommended a "special adaptation of homogeneous grouping" which avoided "rigid segregation on racial or cultural lines" (Thayer, 1960, p. 498).

President Eisenhower, in his Our Future Security speech, delivered shortly after the launching of Sputnik, described the bill he would present that would provide, "a program to stimulate good quality teaching of math and science; provision of more laboratory facilities; and measures, including fellowships, to increase the output of qualified teachers" (Public papers, 1957, pp. 234-235). The Rockefeller report attacked teacher training practices. A history of the School Math Study Group (designed to bring university mathematicians into the preparation of school math curriculum) observed that many math teachers were not only

not qualified to teach important concepts, they turned students away from the study of math (Wooton, 1965).

However, educator Frank Wilson, writing on the qualities most needed in the teachers of the gifted listed six important qualities, none of which dealt clearly with subject matter preparation. One was the ability to "develop classroom atmosphere for gifted pupils that is conducive to good mental health" (Wilson, 1957, p. 364). Another suggested that teachers of the gifted be trained in "administering mental hygiene first aid" (Ryan, Strang & Witty, 1951, p. 125). The educators clearly knew their constituents better than the manpower experts did. A Life poll (October 16, 1950, p. 14) showed that citizens, in response to the question, "What are the two or three most important things young people should get out of high school?," favored "personality, discipline and tolerance" over "academic background" by 45.3% to 13.4%.

Educational practice during the Cold War came to be symbolized by two practices: grouping and an emphasis on science. They both elicited strong reaction. Three widely described programs, the Washington DC four-track program, the Bronx High School of Science and the Forest Hills High School special science programs have been selected for examination. Only 16.9 percent of the urban districts participating in a study of elementary school organization reported using homogeneous grouping in grades 1-6, while 34.4 reported using it for grades 7 and 8, Dean, 1960, p. 68). While each was linked rhetorically with the manpower model, the actual practice shows the continuity of many features of the opportunity

model, especially the emphasis on socialization. At Bronx High School of Science and in the DC schools the effort to target resources to a success-oriented population is clear. At Forest Hills High, located in Queens, New York, in a neighborhood resembling a good suburb, the effort seems nonexistent, for it is unnecessary.

The Bronx High School of Science served all five boroughs of New York City and had an elaborate entrance procedure. A special aptitude test, resembling the College Entrance Boards, was required as well as recommendations, parents' consent, completion of elaborate forms on hobbies and so on. Only a quarter to a third of all applicants were accepted and the median IQ for the entering classes in the late 1950s was 140. Typically all graduating seniors went on for further education. At least part of the school's attraction was its social characteristics. "There are always some parents (and at times they become too numerous for comfort) who seek out the special school because they want their children in a so-called good school" (Meister, 1957, p. 271). Forest Hills High School was located in a neighborhood of the type Robert Havighurst called one of "favored economic position" (Havighurst, Stivers & deHaan, 1955, pp. 25-27). About ninety percent of its seniors went on to college each year. Not surprisingly, admission to the special science program relied on self-selection. However, guidance counsellors encouraged incoming pupils of high score to participate. The median IQ of those involved was about 120 in the 1950s. There was considerable turnover among students as many dropped out, lured by other cultural or artistic offerings available at the school.

The DC four-track plan was sometimes recommended as a model way to deal with desegregation (Meyers, 1958). Black enrollment in the DC schools went from 51% in 1950 to 77% in 1959. Many middle-class blacks withdrew their children and the District schools were left with many of what some called the "new Negro" (Hansen, 1968, p. 233). These pupils were, Supt. Hansen believed, more likely to need remedial work and to be disruptive. Nothing in the traditions of the schools or the experience of the interest groups had prepared them to deal effectively with these pupils, it seemed. Hansen, in an effort to preserve a traditional high school program, offered his tracking program. Admission to the Honors or top track required an IQ of 115 or better, above-average reading and arithmetic scores, good record, teachers' recommendation, good health (physical and emotional) and parents' approval. Even though application of these standards was flexible the enrollment in the Honors track was low: only 9.1% of the high school enrollment in 1958 and 10.4% in 1963. Hansen, using manpower rhetoric, came to advocate compulsory enrollment in the Honors track:

> In a free society, the individual has obligations which transcend personal advantage . . . Should pupils then make their choices along purely self-centered lines? Should personal convenience give way to public necessity? Public education was, in fact, established for public necessity. It was not conceived as an instrumentality of personal aggrandizement.

Citizens, he concluded, have a "public duty" to put forth their best

effort "in accordance with their talents" (Hansen, Four track, p. 166). These three schools represent three methods of grouping that reflect the constituency served--the local interests--more than the national manpower model. The selection procedure at Bronx Science is the only one that approximated real manpower model choice. It needed numerous applicants from throughout the nation's largest district, drawn to the school for a mixture of reasons.

Ike had warned that "when a Russian graduates from high school, he has had five years of physics, four years of chemistry, one year of astronomy, five years of biology and ten years of mathematics through trigonometry and five years of a foreign language" (Public papers, 1957, p. 235). None of the programs offered in the three schools approached this standard, however. Indeed, James Conant, a leading manpower advocate specifically eschewed the European model of secondary education, and recommended instead the traditional comprehensive school, with a more academic course load for the able, the top 15-25% on a national standard. For these he recommended four years of math, four years of one foreign language and three years of science (Conant, 1959). At Science a typical student had four years of science, three or four years of math, three years of a foreign language. This was similar to the program followed at FHHS. The Honors Track pupils took math, science and foreign language although how much is not clear. At both Science and FHHS, assisting teachers in lab work or setting up demonstrations and other informal learning or socialization was emphasized also.

Strang, in the longest essay in the Witty collection on the gifted child, proposed teaching gifted high schoolers "education in interpersonal relations, self-understanding and family living in addition to the usual academic subjects" (Strang, 1951, p. 153).

Clearly the interest groups found heightened satisfaction from the three programs for grouping described. Teachers undoubtedly found psychic rewards enhanced when discipline problems were confined to some back-talk (Lichtenstein, 1978, p. 36) and when they served as "guides, friends and guardians, father-confessors" (Brandwein, 1955, p. 67). An Honors track pupil observed that "teachers seem to enjoy teaching Honors classes much more" (Hansen, 1964, p. 182). Professional satisfactions also increased. Indeed the role of teachers at Bronx Science and in the special program at Forest Hills resembled that of teachers in small liberal arts colleges. Many of the Science faculty went on to administrative posts in other high schools, but there was always a goodly supply of applicants for transfer. Teachers in the DC Honors track were able to continue in the traditional high school teaching role, long after most of their colleagues were immersed in remedial work. Hansen lamented the District's loss of teachers to suburban high schools, and for many of his teachers the loss of an Honors track program probably meant leaving the district.

The students certainly understood that they were in a better program and appreciated it. Counsellors at Science advised on mobility strategies such as club and hobby activities that would appeal to admissions committees at the better colleges (Lichtenstein, 1978, p. 33). Meister

indicated that attendance at Science produced a halo effect. An Honors track student wrote: "I feel that my high school education has been much more varied and interesting than if I had been in classes with pupils of all abilities" (Hansen, 1964, pp. 181-182).

The administrators identified with these programs received nationwide publicity and were hailed as experts in science, education or desegregation. Meister's program was cited in works by Vannevar Bush and James Conant. Meister, Brandwein and Hansen published works on their programs and spoke before varied audiences. Each linked his program to national goals.

Parents of children in each program could enjoy the traditional satisfactions of parents whose children are grouped into a top group. Their children would be treated much as they were at home. At Science and in the Forest Hills special program they would have important responsibilities in assisting the teachers. The parents at Science organized, as the parents at many small colleges, and raised funds for scholarships and extras for the school. As Meister indicated, many would be pleased that their children were in a "good school."

The ultimate test of the manpower model must be how well it linked curriculum to the world of work in the areas specified as being of national concern. It is not at all clear that the model was successful. Even among graduates of the Bronx High School of Science, a group selected for both high IQ and interest in science, the choice of a career in science was anything but unanimous. Dael Wolfle wrote that only 30% of the graduates of Science majored in natural science in college. By adding

engineering, psychology, applied biology and health fields to the list, the figure rose to only 54% (Wolfle, 1954, pp. 162-163). An informal survey of the group attending the thirtieth reunion of the Bronx High School of Science class of 1948 showed that there were twelve doctors, twelve lawyers, eight dentists, seven in marketing, with others in advertising, television, teaching and in the rabbinate (Lichtenstein, 1978, p. 35). For the college population as a whole, science and engineering graduates make up 3.5 to 4% of the total and "special incentives in the post-Sputnik years were unable to increase this perceptibly" (Doty & Zinberg, 1973, p. 183).

The manpower model had been tied to the twin Cold War objectives of filling the personnel needs of the military-industrial complex and demonstrating the superiority of the American system over the Soviet. Although the manpower model was never fully implemented, it created many vocal enemies who attacked its two most publicized features, grouping and the emphasis on science, as undemocratic. Grouping seemed to oppress poor black youth (Bettelheim, 1958; Hansen v. Hobson, 1967) while middle-class white youth was oppressed by seeming coercion in career choice (Hersey, 1960; Goodman 1960). (The expanding economy offered a variety of middle-class slots, unrelated to science and technology.) The effort to establish, scientifically, an aristocracy of talent bound to serve the nation, foundered in the face of the political realities of American democracy.

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